

Hand-2-Speech



Instruction Manual

Introduction

Hand-2-Speech is an easy-to-use device, which is useful for the hearing impaired, as well as those who are learning sign language. The device takes the form of an intelligent glove that can detect the subtle movements of the hand and fingers. As the user signs, the intelligent glove's information is transmitted wirelessly to a computer, displaying the sign language as text on the computer screen. Hand-2-Speech can help bridge the communication gap between hearing impaired and the outside world.

List of Parts

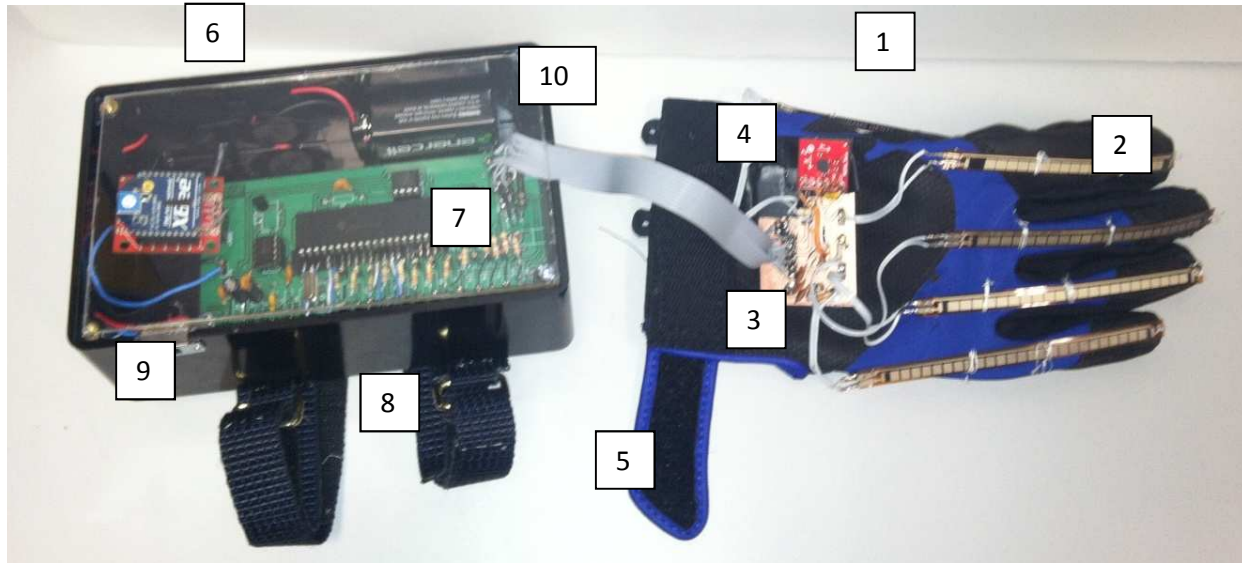


Figure 1: Glove and transmitting enclosure

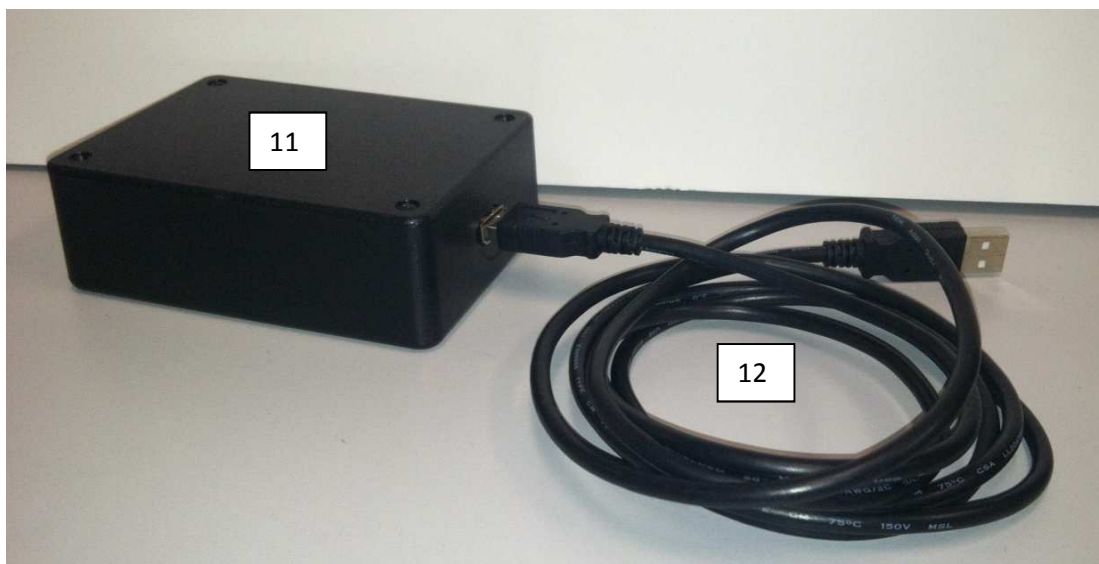


Figure 2: USB enclosure and USB cable

1. Glove
2. Flex Sensors
3. Glove Circuit Board
4. Accelerometer
5. Glove Strap
6. Transmitting Enclosure
7. Transmitting Circuit Board
8. Transmitting Enclosure Straps
9. Power Switch
10. Battery
11. USB Enclosure
12. USB Cord

Getting Started

Use the following steps to operate Hand-2-Speech

1. Turn on computer
2. Plug one end of the USB cable (12) into USB enclosure (11) and the other into an open USB port on the computer.
3. Open Google Translate (<http://translate.google.com>) or any program that accepts text
4. To put the device on, slide the arm through the transmitting enclosure straps (12) and then into the glove, securing the glove (1) with the glove strap (5). Tighten the transmitting enclosure straps to secure device to the forearm.
5. Turn on device with power switch (9) by moving the switch towards the glove. "Bison" will be typed to the screen and then be deleted (If this does not happen please refer to troubleshooting).

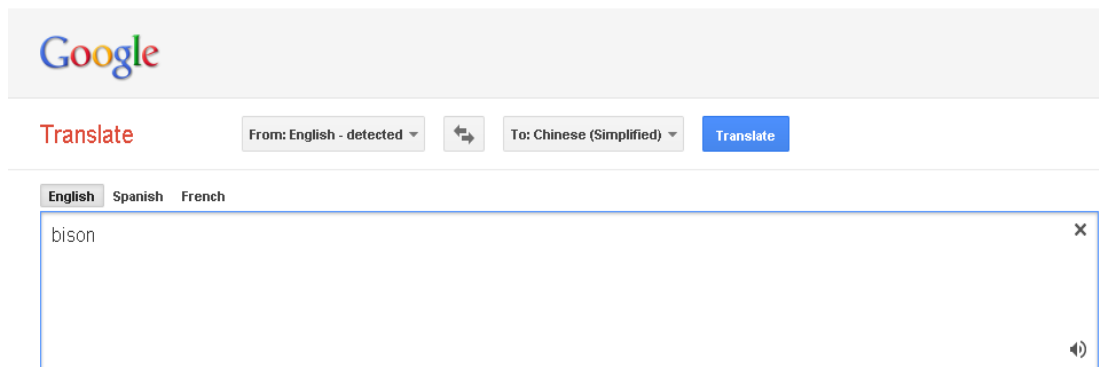


Figure 3: Power up of glove

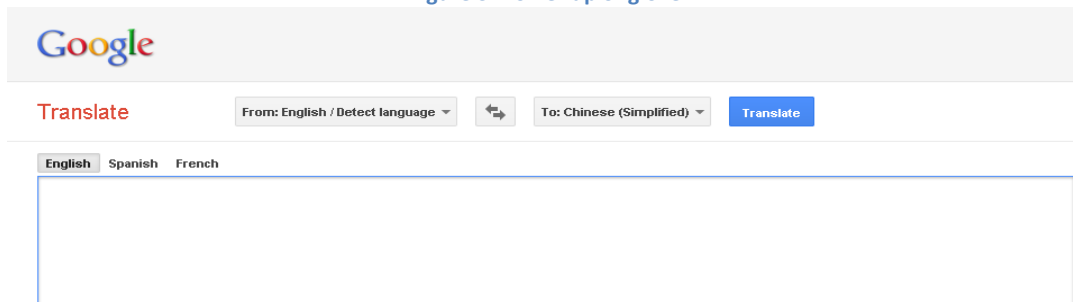


Figure 4: Device ready for signing

Using the Device

The following steps are to use Hand-2-Speech

1. Sign any letter in the American Sign Language. The letter will appear in the window.

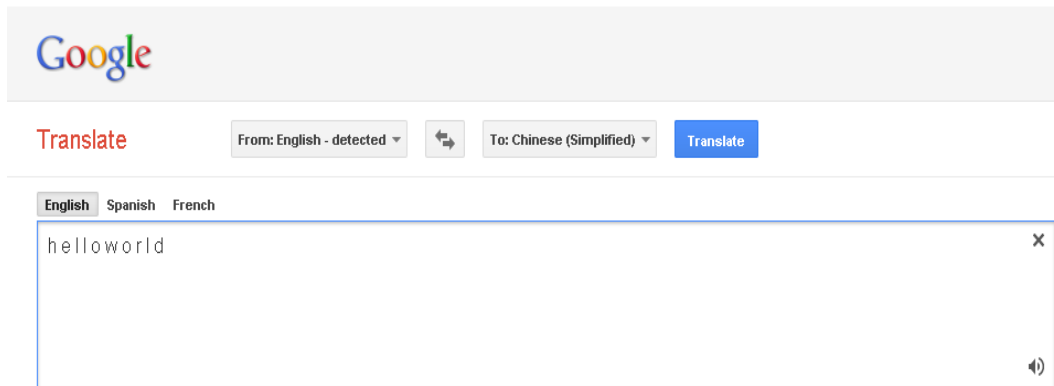


Figure 5: Signing letters

2. Turn wrist counter-clockwise to delete letter or spaces.

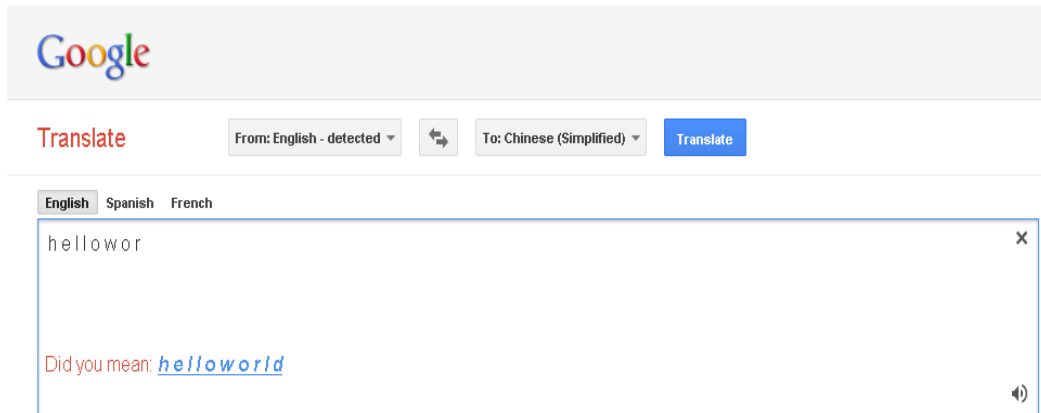


Figure 6: Deleting Letters

3. Click the speaker symbol to have Google Translate say anything you've typed.

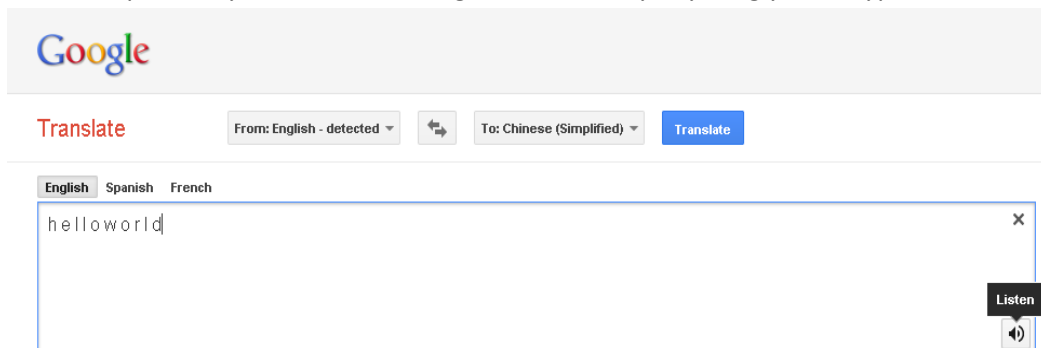


Figure 7: Using the text to speech

4. To turn off the device, simply flip the power switch (9) to the off position and unplug the USB cord from the computer (12).

Troubleshooting

The following are steps are if Hand-2-Speech encounters trouble

- If Bison (Delete bison) does not appear once switch is turned on
 - o Problem: Low battery
 - Replace battery
 - o Problem: Text document is not open
 - Open text document
 - o Problem: Product failure
 - Return to manufacture
- If Bison (Delete bison) appears once switch is turned on, but signed letters do not
 - o Problem: Flex sensors or accelerometer failed
 - Return to manufacture